

The following news briefs are sent to you by the National Synchrotron Light Source at Brookhaven National Laboratory, Upton, New York www.nsls.bnl.gov

Science Highlight: Giant Dielectric Effect in $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ and Its Cd Analogue

Contact: Chris Homes (homes@bnl.gov)

The perovskite-related material $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ has a very high static dielectric constant $\epsilon_0 \sim 10^4$ at room temperature, which drops to about 100 at low temperature. Substituting Cd for Ca reduces the room temperature value by over an order of magnitude. The origin of the large ϵ_0 is not fully understood, but may be due to an internal barrier layer capacitance (IBLC) effect. Infrared measurements on the Ca and Cd compounds show dramatic changes in the nature of the normal modes at low temperature, suggesting that increasing electronic localization may lead to a breakdown of the IBLC effect. For more information, see:

<http://www.nsls.bnl.gov/newsroom/science/2003/09-Homes.htm>

A Safety Message for All Our Users – Don't Let This Happen to You!!

Contact: Bob Casey (casey@bnl.gov)

Recently two NSLS users were involved in another incident involving the failure to wear a TLD dosimeter while on the experimental floor. Both users received a formal warning letter from the NSLS Chair and were required to retake all of their NSLS training. Because of the circumstances, one user had her research privileges suspended for 3 months. Don't let this happen to you when you come to the NSLS. Remember to immediately acquire a TLD upon arrival and comply with all safety requirements while conducting your work. For more details on this event, see:

<http://www.nsls.bnl.gov/organization/ESH/temp/fail2weartld.pdf>

"Mail-In" Crystallography Featured in Nature Magazine

Contact: Howard Robinson (robinson@bnl.gov)

BNL Scientist, Howard Robinson, was featured in Nature Magazine in June. The article describes the success of "Mail-In Crystallography" at synchrotron facilities, most notably the NSLS. For more details, and a great photo, see (subscription may be required):

http://www.nature.com/cgitaf/DynaPage.taf?file=/nature/journal/v423/n6942/full/423799a_fs.html

Another Successful Year for the EXAFS Data Collection and Analysis Short-Course

Contact: Simon Bare (simon.bare@uop.com)

A hands-on EXAFS Data Collection and Analysis Course was held July 14-17, 2003 at the NSLS. The course was co-organized by Bruce Ravel (Naval Research Laboratory) and Simon Bare (UOP LLC), with superb administrative support by Lisa Tranquada (SFA, Inc.). Twenty-eight eager participants (graduate students, postdocs, and institution and industrial scientists) representing universities, national laboratories, research institutes and industry attended the course. Of these, there were ten new users to the NSLS. The participants had diverse research interests across a broad spectrum of scientific fields (materials science, geological and environmental sciences, catalysis and biology) and attended to learn how XAFS may be applied to their research program. For more details, see:

<http://www.nsls.bnl.gov/newsroom/news/2003/08-exafs.htm>

Over 750 Visitors Tour the NSLS on Summer Sunday

Contact: Lisa Miller (lmiller@bnl.gov)

On Sunday August 3, over 750 visitors toured the NSLS as part of Brookhaven National Laboratory's Summer Sunday tour series. Thirty-five NSLS staff members, students, and users volunteered their time for the event, which was organized by NSLS scientist, Lisa Miller. Each summer, BNL is open for tours on seven consecutive Sundays, feature exciting interactive exhibits and an inside look at a different Laboratory facility each week, including the National Synchrotron Light Source. For details on the NSLS festivities, see:

<http://www.nsls.bnl.gov/newsroom/news/2003/09-summarsundays.htm>

NSLS Image Library No Online

Contact: Steve Giordano (giordano@bnl.gov)

The long-awaited NSLS Image Library is now online. Download photos of the NSLS, logos, banners, and more. The files are available in high-resolution (300 dpi) and low-resolution (72 dpi) format. Anyone with suggestions for other images, please contact the NSLS webmaster, Steve Giordano (giordano@bnl.gov). The Image Library can be accessed from the NSLS homepage (bottom right corner) or directly at:

<http://www.nsls.bnl.gov/about/imagelibrary/>

Publication References Due October 24, 2003

Contact: Nancye Wright (wrightl@bnl.gov)

Any users or staff that have published work based in part or in whole on work performed at the NSLS, are required to submit these references into the NSLS online publications database. These publication references are an important factor in NSLS funding and a necessary part of the Department of Energy reporting process. In order for your publications to be reported to DOE in this fiscal year (FY03) and included in the 2003 NSLS Activity Report, they must be submitted by FRIDAY, OCTOBER 24, 2004.

To see if your publications are already in the system, search at: www.nsls.bnl.gov/newsroom/publications/references/search.asp

To submit a publication reference, go to:

www.nsls.bnl.gov/newsroom/publications/references/search.asp

Beamline Progress Reports Due October 1, 2003

Contact: Susan Hatzel (hatzel@bnl.gov)

As part of our annual DOE reporting process, the NSLS is required to report certain information concerning each beamline to the Office of Basic Energy Sciences at the end of each fiscal year. Each beamline spokesperson and local contact was emailed a template report in August to complete and return electronically to NSLS User Administration by October 1. This is just a reminder that October 1st is only 2 weeks away!

Abstract Submissions Discontinued

Contact: Nancye Wright (wrightl@bnl.gov)

The abstract submission process, which has long been a part of the NSLS Activity Report, has been discontinued. This decision was made after joint discussions between the Users' Executive Committee and NSLS management. Instead of abstracts, we will be expanding the Science Highlights section of the Activity Report. Science Highlights are based on recent publications from NSLS users and staff, and contain a short abstract and description of the work published. If you would like to submit a science highlight, please send the publication reference and abstract to NSLSinfo@bnl.gov.

The July NSLS Newsletter is now online

The July 2003 issue of the NSLS Newsletter is now available online and in print. To receive a printed copy, please email Nancye Wright at wrightl@bnl.gov. To view and download the online version, go to:

<http://www.nsls.bnl.gov/newsroom/publications/newsletters/2003/03-july.pdf>

Request a 2002 NSLS Activity Report

The 2002 NSLS Activity Report is now available in print and on the web.

To view the online version or request a printed/CD copy, go to: <http://www.nsls.bnl.gov/newsroom/publications/activityreport/ARMail.asp>

Job Opportunities at the NSLS

A number of scientific and technical job opportunities are available now at the NSLS. See the NSLS web site for details:

<http://www.nsls.bnl.gov/organization/Admin/jobs.htm>

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To subscribe or unsubscribe to this list, see:

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If you would like to suggest a news item, please send a message to NSLSinfo@bnl.gov.

The current and past issues of the NSLS e-News are available on the web at:

<http://www.nsls.bnl.gov/newsroom/publications/enews/>

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